GRUMMAN plane news

Vol. 32, No. 9, Bethpage, N. Y., May 11, 1973

Meeting of the clan—

Major Tomcat subcontractors meet in Bethpage

One week ago yesterday, approximately 100 men met in Plant 25 to discuss the F-14. Some were senior executives from F-14 associate subcontractors, others Grumman executives. It was the first meeting of the Tomcat clan in more than a year, and it was the first such meeting at which Grumman Aerospace President and Chairman of the Board Joe Gavin presided.

The roster of those present was an impressive cross-section of the aerospace industry, including such names as IBM, Curtiss-Wright, Aluminum Company of America, General Electric, Raytheon, Kaiser, Litton, Bendix, Hughes, Rohr, Sunstrand, Teledyne, United Aircraft, Talley, Sperry Rand, and Garrett.

The general purpose of the meeting was to bring the top subcontractors together for an updated report on the F-14 program and discuss the plans and needs for the coming year. The over-riding theme: "Reduced operating costs enhance chances for long-life production." Gavin said that Grumman is taking firm steps toward bringing costs of the F-14 down. He also enlisted the help of the subcontractors to do the same.

He emphasized, however, that "we at Grumman can control only about one-fourth of the cost of these planes. If you, representing our major subcontractors, join us and do the same, we can affect the cost of about one-half of the airplane. Between us, we can get costs down and the future programs that look so promising may come to pass."

There is no question that the F-14 is a top-notch weapons system and a first-rate flying machine, Gavin pointed out. "Its maneuvering capability has outstripped our expectations," he said. "It has passed all of its tests and it is now in BIS (Bureau of Inspection and Survey) trials which are going to continue until the latter part of this year. The point is that the performance of the F-14 has been demonstrated, and we are now entering a transition phase from flight development to production."

He added: "There are now only 14 months to fleet

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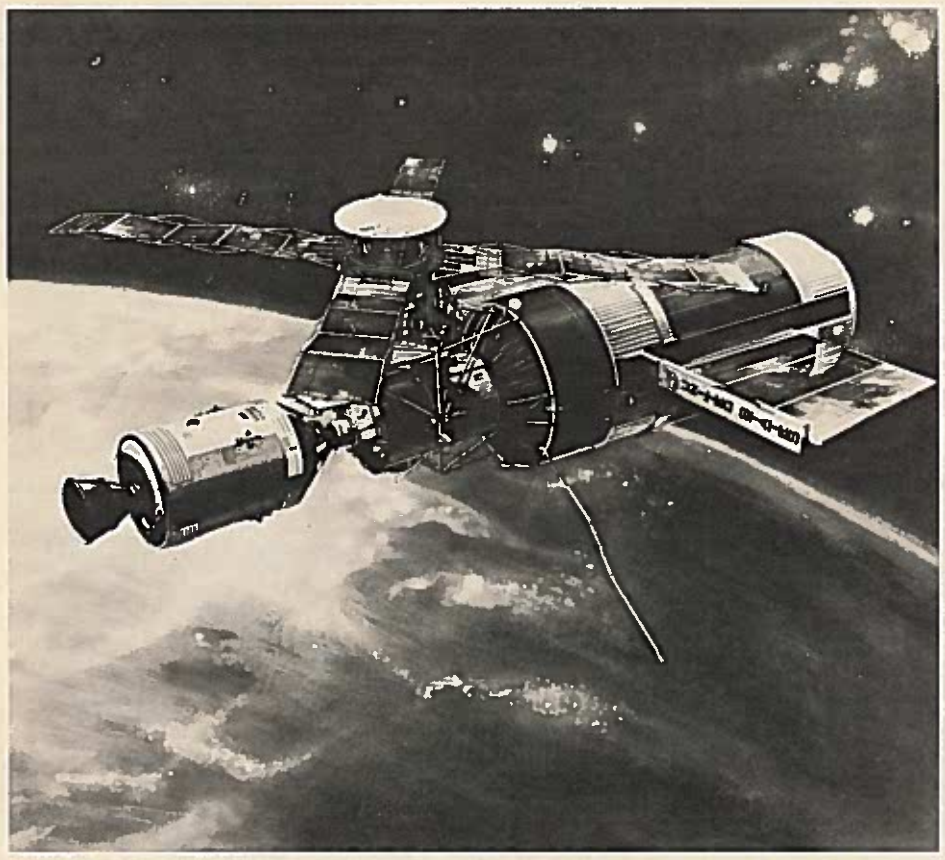

Skylab. The next step after America's Mercury-Gemini-Apollo missions is to begin next week as three astronauts join in an experimental earth-orbit scientific mission to last 28 days. Main purpose is to learn about man's reactions to prolonged space trips. (NASA photo)

NASA to launch Skylab May 14 for extended space experiments

"The workshop in the sky"—NASA's Skylab—is to be launched this coming Monday, May 14, from complex 39A at the Kennedy Space Center on Merritt Island, Florida.

On the following day, a three-man crew headed by veteran Astronaut Charles (Pete) Conrad, will be kicked into earth orbit by a Saturn 1B. Conrad, scientist-pilot Dr. Joseph P. Kerwin (the first MD to fly in space), and Skylab pilot Paul J. Weitz are to spend 28 days "up there" after docking with the lab.

The main purpose of the flight is to conduct medical experiments. Basically: what are the the physiological effects on humans during prolonged periods of weightlessness?

Data exist on weightlessness, but the longest U.S. space journey thus far lasted 14 days. That came more than seven years ago during the Gemini flight of astronauts Frank Borman and James Lovell. So the upcoming flight doubles the in-space time logged so far.

And the plan is to double that again, to make a 56-day stay in space in a second mission. Naturally, that's contigent upon the results of this first Skylab mission.

Workshop environment

After having been "squeezed" into an Apollo command module during the first leg of the trip, there could well be a sense of roominess once they've docked with and moved into the lab. The workshop itself is a Saturn V launch vehicle third stage converted into living and work quarters for the crew. It has 10,000 cubic feet of space, divided into two "floors" where many types of biological, scientific, and technical experiments can be conducted. The emphasis has been on crew convenience and comfort. For example, solid partitions seven-feet high divide the quarters into a sleeping compartment, a wardroom, a waste management section, and a work/experiment area.

The astronauts will breathe a mixture of oxygen and nitrogen, and a thermal control and ventilation system will keep temperatures between 60-90 degrees F. The nominal temperature will be 70 degrees F. They'll be able to see the earth at all times through a large observation window in the wardroom. And, of course, there'll be voice communications throughout and a one-way TV system from the workshop to ground controllers.

Sorry, folks . . .

We know that some of your ads aren't in this issue of Plane News and that you're very anxious to sell off those items before spring has sprung . . . but . . . there has been so much happening around the corporation in recent months that we can't possibly devote more than two pages to 'at your service' advertisements. We'll do our best to fit your ad in the upcoming issue. You could help, too; keep that ad word count down.

message from the PRESIDENT

Joe Gavin

From time to time, I intend to report to you on the status of the Company, on matters that concern me, and on matters that I think should be of concern to you.

I'm sure you realize that the Company has come through a very trying period, and when the March 8 settlement of the F-14 controversy was announced, we all breathed a little easier.

But we are now faced with carrying on that program within the financial boundaries which were projected at that time, and on which the settlement was based. This task also coincides with a number of other factors coming into focus at this time:

- The transition of the F-14 from a development to a production airplane
- The resolution of the Shuttle subcontract competition in which we were awarded the contract to design and build the Orbiter wing
- The beginning of the A-6 "A" to "E" modification line at Calverton
- The beginning of production deliveries of the E-2C

So, after a little over a year of unsettled conditions, we are now entering an era of more stabilized operations. During this upcoming period, we must maximize our efficiency and, being prudent about the future, we must look ahead to the next five, six, or even eight years and be concerned about what's going to happen then.

With those things in mind, I think you can begin to see the pattern of thinking that has led to the reassignment of some of the responsibilities within the Company.

Increased production

A predominant concern in this realignment is the operation at Calverton. Over the past year, the buildup at Calverton can be described as nothing less than dramatic. At Plant 6, we increased the total aircraft in flow each month from 11 to 34; soon, that number will be 37. The total includes production on EA-6Bs, A-6Es, and, of course, F-14s.

In upcoming months, we are going to increase the Tomcat production rate to four per month, and we will have to be delivering them at a faster rate, too: F-14 BIS trials are coming up, Navy crew and maintenance training is being accelerated on the West Coast, and the first two Tomcat squadrons—VF-1 and VF-2—will require more and more F-14s as they get ready for Fleet deployment. As you can see, the work going on at Calverton is going to be increasingly important in the months ahead.

During this period of transition of the F-14 from flight development to production, it is important that we make the best use of our skills and resources in order to achieve the greatest operating efficiences.

One of the steps we've initiated to reach that objective concerns a new direction for management at Calverton. We believe that a number of various activities at Calverton can be gathered together and run locally—much as they were during our successful LM operations at Cape Kennedy—rather than have them depend on direct lines to appropriate managers at Bethpage. This move, I believe, is a vital step toward achieving the production savings we need.

Vice President George Skurla, who will head the Calverton team as general manager, has had extensive experience in a similar task—bringing together and directing a manufacturing assembly, test, and launch team for the Lunar Module at Kennedy Space Center. George, of course, is no stranger to aircraft—he has been closely associated with the design, flight test, and production of aircraft for more than 25 years.

As general manager at Calverton, he will be making heavy demands on the rest of the Grumman Aerospace family for technical and manufacturing support to meet our future aircraft delivery commitments.

In view of that fact, we're also reshaping some of our management

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Name six to new posts in major management realignment

On May 2, Grumman Aerospace President Joe Gavin announced a major realignment of management responsibilities that included operations at Bethpage and Calverton, and also the areas of Advanced Systems Technology and Customer Requirements. Key appointments in the restructuring are:

- Senior Vice President Grant Hedrick, named to head Advanced Systems Technology, which involves development of technology for future programs and improvement of current programs.
- Corky Meyer, who is also a Senior Vice President, appointed to direct Customer Requirements on current and future programs.
- Vice President George Skurla, named as general manager at Calverton, and will direct final assembly, flight development, flight acceptance, and supporting activities at the facility.
- As Operations manager at Bethpage, Vice President Ed Dalva will direct activities that include Technical Operations and Manufacturing Operations.
- Vice President Larry Mead, named to head Technical Operations.
- Vice President Jim Zusi was named last month to head Operations Quality.

Corky Meyer

Grant Hedrick

Ed Dalva

George Skurla

Jim Zusi

Larry Mead

Technical expert

Hedrick, director of Advanced Systems Technology, began his career at Grumman as a stress analyst in 1943. He then advanced to Chief Structures in 1946, and in 1957, he became chief technical engineer. A graduate of University of Arkansas, and graduate degree from Princeton, Hedrick was elected a Vice President in 1963. In February 1970, he was elected Senior Vice President and director of technical operations.

Under his management, the Engineering department has made great technical achievements such as Navy's two most sophisticated electronic weapon systems, the A-6A Intruder and the E-2A Hawkeye; successful flights of the LM and OAO; the winning design of the Navy's F-14 Tomcat; and the Gulf Stream Drift Mission of the mesocaphe, *Ben Franklin*.

Wide experience

Meyer, director of Customer Requirements, began his flying career with the Company in 1942 as an engineering test pilot. He was the project pilot on the F6F, F7F, F8F, F9F, XF10F, F11A, F11F, XF9F-2, and F-9F-8T. In 1960, he served as director of aircraft development and director of program development, prior to returning to flight test activities as director of the Flight Acceptance department in 1965. As a result of improvements made in the production flight test cycle, he was placed in charge of the Calverton facility, and in 1968, he was appointed director of product manufacturing. In 1969 he was given the responsibility of all Product Operations.

He was elected a vice president in 1967, director of Product Operations in 1969, and in 1971, senior vice president. From 1963 to 1969, he also served as President of Grumman International, Inc.

Set up Product Support

Dalva, Operations manager of Bethpage, began his career at Grumman in 1941 as a mechanic in the final assembly of the F4F Wildcat. During this time, Dalva, who had attended Syracuse University, continued his engineering studies at Brooklyn Poly Technic Institute. He then advanced to engineering designer, chief liaison engineer, and engineering group leader and designer. He held that position until 1952 when he was made project engineer of the E-2A Hawkeye program.

Dalva served one year as assistant manager of aircraft project engineering, followed by the promotion to manager of the Support Department. It was here that he formed the department of product support of which he was made director in 1966. He was elected vice president in 1969.

Former Cape chief

Skurla, general manager of Calverton, has been with the Company since 1944, starting with a job on the shop floor as an apprentice engineer, although he held a degree in aeronautical engineering from Michigan University. He moved up the ladder steadily in a variety of positions—liaison engineer, stress analyst, and positions in Research and Structural Flight Test, which he headed. After working on the F9F and F11F series, he did a tour as chief engineer of Aerobilt Bodies, Inc. In 1960 he became manager of commercial products in Business Development, went back to Flight Test as assistant director, and three years later became the manager of Operations at KSC for Grumman. He was elected vice president in 1970 and returned to Bethpage to become director of Product Engineering.

Extensive background

Mead, director of Technical Operations, joined Grumman as a stress analyst on various wartime programs after graduating from Princeton University in 1941. Following World War II, he was named assistant project engineer on the XF11F Tiger, project engineer on the F11F-1F Super Tiger, and project engineer for the proposal and development program of the A-6A Intruder. He then served as staff assistant to the vice president in charge of project engineering, as both acting chief of advanced systems and chief of the engineering staff, and in September of 1968, was made director of product manufacturing of the F-14 Tomcat program. In May 1969, he was elected a vice president of Grumman Aerospace. From mid-1969 until 1972, he held the position of director of Grumman's Space Shuttle proposal. Upon completion of that task, he directed the Company's joint proposal with Boeing Vertol to the Army for an Advance Attack Helicopter (AAH).

Heads Quality Operations

Zusi, director of Operations Quality, began his association with the Company in 1939 as a stress analyst, working on Grumman's first folding wing on the F4F Wildcat. A graduate of Catholic University of America, Zusi established Liaison Engineering during World War II. Following that, he proceeded to higher levels of responsibility including project engineer of the F9F-2 Panther, assistant chief engineer for production, executive engineer, and chief engineer.

In 1963, Zusi was elected vice president. Before becoming director of Production Engineering, he served as director of the A-6 Intruder program from 1964 to 1967.

Quonset says 'au revoir'

After 32 years of service to Grumman Aerospace Corporation and the Navy, Joe Horak retires as "one of the best known field representatives in the aircraft industry," according to C. D. Sawtelle, Navy Public Affairs Officer at Quonset Point, R. I.

Over his span of thirty-two years as a Grumman representative, Horak has worked on every Grumman aircraft that has seen active duty with the Navy, including attack, fighter, torpedo, torpedo-bomber, radar early warning, and antisubmarine warfare-type aircraft.

F-14 round-up:

Tomcat is in homestretch to fleet service

"The F-14A weapon system is on the home stretch to first Fleet deployment, and a lot of milestones have been passed along the way," says Vice President Mike Pelehach, who's been in charge of the Tomcat program since its inception.

"As viewed by 'Fighter Town U. S. A.'—the home base of Readiness Squadron VF-124 (and VF-1 and VF-2)—as well as by other F-14 experienced operators," Pelehach says, "they all like what they see. They expected a flexible weapon system with excellent air-to-air combat and Fleet air defense capability, as well as a good air-to-ground effectiveness. Those who've had experience in flying Tomcat say that's what they've got."

That assessment comes at about the midway point of the flight test development program, well past the period when big surprises might occur. "Fine tuning" is the best expression of what's going on now, for the critical milestones—the ones that demonstrate an aircraft's capability to perform the missions it was designed to do—have passed into flight test history.

So this may be a good time to review Tomcat progress, to touch upon some of the many milestones achieved, and to remark on innovations in design, manufacture, and testing. In order to set all this in perspective, a brief statement concerning the Navy's need for an air superiority fighter is in order.

For Grummanites, at least, the rationale for a new fighter was set forth in the October 1968 issue of Science and Technology when Joe Rees, now deputy program director of F-14, and Arnold Whitaker of Systems Technology wrote an article contesting the notion that the days of dogfights were over. The two men said:

"Enemy pilots assisted by good ground-based radar were able to counter the F-4 (Phantom) from the rear and engage it in close-in battle where its missiles were useless. The F-4 pilot could have thrown rocks at the MIG, but he didn't have the right guns or missiles to shoot it down."

The aircraft in question was the MIG-21, which was developed at about the same time as the F-4—and during following years, the Soviet was cranking out new and better fighters on the average of one every other year. In other words, there's a "fighter gap" now, and there has been for years. That's why the Navy says it needs the F-14: an air superiority fighter that can overwhelm any other in dogfights while, at the same time, can protect the Fleet by loitering as far as 150 miles away.

How did the Company go about meeting the enemy threat? One way was to use in greater scale than ever before two light materials: titanium and boron epoxy. Titanium was termed a "cantankerous" metal, one difficult to machine. The Company designed two huge electronic beam welding machines—the largest known—and had them operative well in time for production. In fact, the job of fabricating and fatigue-testing a representative box beam seection made of titanium and using electronic beam welding was accomplished one year *before* Grumman won the F-14 contract.

Another first was the use of boron epoxy on a large scale, for the horizontal stabilizers. The fruits of that experiment were proved in 1970 after two years of intense effort.

Two static articles and a fatigue-test article were provided very early in order to make sure that structural tests would always pace flight-test needs. This "test early" philosophy has paid off. Instead of having to test several hundred wing boxes — a very costly and time-consuming effort that used to be standard procedure — a minimum of boxes were required.

Similarly, more than 500 drop tests were completed well before the end of last year. Static article No. 2 was dropped from varying heights and in differing aircraft attitudes (roll, pitch, etc.) not just to determine how rugged Tomcat would be but, rather, to develop the precise design of the landing gear metering pin. The pin must be designed to provide correct strut stroking in order to absorb the energy during landings under varying conditions. These tests — conducted in Plant 5 in Bethpage—permitted land-based carrier suitability trials. Navy Cdr. M. Brown completed 13 touch-and-goes, two arrestments, and two catapults, a key milestone in Tomcat testing.

Indeed, many milestones have been met, such as:

- Maneuver, high-speed structural test (1971)
- Wing box fatigue test (1971)
- AWG-9 weapon control system tests (1971)
- Pratt & Whitney TF 30 engine qualification tests (1971)
- Navy Preliminary Evaluation (NPE) No. 1 at Calverton (1971), when the Navy team, in special recognition, stood to congratulate the Grumman team.
- NPE No. 2 (East - West), when the Navy team reported that "the F-14A aircraft integrated avionics and AN/AWG-9 weapon control system displayed outstanding performance characteristics and potential to accomplish the air superiority fighter and Fleet air defense missions." The team also said that a real advance in mission effectiveness had been accomplished because of increased weapon system performance, improved cockpit displays, enhanced navigational accuracy, and expanded system self-test capability. (1972)
- Drop tests
- Lighting mockup
- Mini-operational evaluation
- Beginning of initial test phase, Board of Inspection and Survey (BIS) trials
- Attainment of combat ceiling
- Delivery of Navy Maintenance Training material and equipment
- Delivery of first production aircraft (No. 15) designated for Navy custody

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'Most outstanding product'

says Gen. Carr

"The most outstanding product of its type in the world today," is the way Air Force Maj. Gen. William Carr described the F-14 recently. General Carr, deputy chief of staff in the North American Defense Command, was at Grumman last month for briefings on the Tomcat and flight demonstrations in the new air-superiority fighter.

In a note to Frank "Gabby" Gabreski of Customer Requirements, General Carr told of the interest in the F-14 in the aerospace community, and asked "Gabby" to pass along his thanks to the Grumman team which conducted the Tomcat briefing-demonstration for him. As he put it, "Seldom, if ever, have I encountered such a crew of complete professionals in the aerospace business. Their sincerity and honesty could not help but be felt . . . of course, these characteristics are backed by what has got to be the most outstanding prodduct of its type today."

F-14 round-up

(Continued from page 4)

• Commissioning of first two Tomcat squadrons, VF-1 and VF-2

• Successful firings of Phoenix missiles at multiple targets and successful firings of the M61A gun

Not to be overlooked because they do not fit into the aircraft "milestone" category are performance evaluations made by people who are not on the Grumman Aerospace payroll. For example, Sen. Daniel Inouye of Hawaii spoke of studies made by the Navy and by the National Aeronautics and Space Administration and said, in part:

"First, the growth in weight of the F-14 since the contract award is the lowest achieved in Naval aviation.

"Second, the performance estimates of the F-14 developed by the Navy have been substantiated by an independent National Aeronautics and Space Agency (sic.) assessment made at the request of the Department of Defense.

"Third, (in reference to the Soviet threat) Tomcat was sufficient to maintain air superiority through the 1980 time period. This projected performance of the F-14A was validated and proved vastly superior to modified versions of the F-4 aircraft.

"Fourth . . . (there were) comparison studies of the F-14 to the current and projected Soviet threats. Results . . . demonstrate that in close-in dogfighting, against mass raids, or high speed small cruise missiles, the F-14 is the only weapon system presently available that will or can provide air superiority through the 1980 time period.

"Fifth . . . Phoenix tests to date demonstrate that all the design performance requirements are being satisfied,

"Sixth, the F-14 airplanes are now flying successfully and are rapidly verifying the predicted flight envelope."

America's first Vietnam ace, Lt. Randall Cunningham, has flown both the F-4 Phantom and the F-14 Tomcat. During an interview with F. Michael O'Brien printed in the Armed Forces Journal this year, Lieutenant Cunningham made several comments, among them:

"What you need (for dogfights) is superior thrust response—the instant high speed—when you want it, coupled with uncanny maneuverability, and that is what those big turbofans, and the flight-programmed swing-wing give the F-14. The F-4 cannot touch the F-14 in that category—nor can any other fighter in the world, including the MIG-23."

"Then, too, there is the Phoenix missile which gives the F-14 a much more deadly long-range punch than the F-4J and, coupled with the AWG-9 radar, provides a FAD (Fleet Air Defence) capability that allows the F-14 to deal effectively with anti-ship cruise missiles, such as the Styx. Just one F-14 can fire missiles at six targets on different courses."

"Sure the F-4 is cheaper than the F-14. But the P-51 is even cheaper than the F-4. What I want in a dogfight is not the cheapest fighter, but the best fighter. And that is the plane that will give you the first place finish. The F-14 is *that* fighter."

And in conclusion, he said:

"The F-14 is just what the Fleet needs to maintain air superiority wherever the policy of the United States requires."

Bob Bradshaw

Name Bradshaw to new position

Bob Bradshaw, former director of Corporate Administrative Services for Grumman Aerospace, was named assistant secretary and personnel director for Grumman Corporation on April 19 at a board meeting of Grumman Corporation. In making the announcement, Grumman Corporation President Jack Bierwirth said that Bradshaw, in addition to his duties as assistant secretary of the parent corporation, will also "coordinate the development and implementation of personnel policies for all subsidiaries."

An engineer by training, Bradshaw is an administrator and personnel specialist by inclination. Following graduation from Stevens Institute of Technology in 1950, Bradshaw, then a mechanical engineer, served in the U.S. Army until the close of 1952. He joined Grumman early in '53 in Manufacturing Engineering. Six years later he became administrative engineer for Manufacturing Engineering, then, in October 1961, he was named assistant personnel director for Grumman.

In rapid order, he was advanced to personnel director in May '63, attended an executive management development course at Harvard Business School from August to December '64, was appointed deputy director of Administration in December '65, director of Administration in March the following year, and, in 1970, director of Corporate Services.

How to encourage ideas

With President Joe Gavin's call for all Grumman people to seek more efficient methods of conducting business, the Motivational Programs Office (formerly Suggestion Office) has provided the following suggestions to supervisors:

BE RECEPTIVE. You will get more and better suggestions if you offer encouragement and convince those who work for you of your sincere interest by promptly recognizing deserving employees. If you are impatient, too busy, or indifferent, you build a wall between yourself and employees. Look at the plan from the suggester's point of view.

GIVE CREDIT FREELY. A high return in worker loyalty will be your reward. Recognizing an employee's contribution is good management and marks you as a good supervisor.

BE APPRECIATIVE. Many employee ideas concern minor improvements, but even a small improvement is a step in the right direction. If you ignore the minor suggestions while waiting for the "big idea," you will discourage employees and perhaps never get the big money maker.

BE SPECIFIC. When a suggestion will not be adopted, an employee is entitled to an explanation as to why his idea will not be used. This will require an investigation and some effort on your part, but by doing these things, you will learn more about your job and also gain the confidence of your employees.

HELP PREPARE SUGGESTIONS. An employee may not have your technical skill or your ability to put an idea in writing. You will demonstrate the traits of a good supervisor when you offer to help them express their ideas.

RESPECT AN EMPLOYEE'S IDEA. An employee's idea is of major importance to him and it deserves courteous and thorough consideration. When a suggester devotes his time and effort to improving operations, it is only natural for him to expect credit and recognition. He is voluntarily contributing what he believes is a good idea.

LOOK FOR THE RELATED IDEA. If the employee's idea is not practical but reveals an alternate idea which solves the problem, the suggester is to be given full credit for the alternate solution.

DO NOT TAKE PARTICIPATION FOR GRANTED. Promote the plan regularly and encourage employees to participate in its benefits.

ENCOURAGE SUGGESTIONS. By encouraging your employees to think constructively and develop work patterns for finding better ways to do their jobs, you'll help build enthusiasm. Should resentment to the plan occur, make a sincere effort to obtain and explain the facts. If the employee's idea is not used, explain the reasons and encourage him to try again.

PROCESS SUGGESTIONS PROMPTLY. Everyone benefits when a suggestion is investigated and processed promptly.

NASA award. Willis H. Leonard, left, of Project Engineering in Plant 25, receives a $25 award for publication of a NASA technical brief titled "Non-contract Torque Measurement Using Stroboscopic Techniques." Presenting the award to Leonard is Vice President Tom Kelly, director of Space Programs for Grumman.

Photos by Bob Settles

Meeting of the clan

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deployment. Regardless of where we are now, we are going to be under even more pressure as deployment approaches. There is still a lot of work to be done in the coming year and all of us must work as a team to get our jobs done well and on time."

Mike Pelehach, Vice President and director of the F-14 program, discussed the aircraft's program status and told the group that in many cases the F-14 is getting more performance than the Company or the Navy initially expected. He said that at present 89 percent of the aircraft's equipment has passed its qualification tests and that "we intend to complete the remainder in the next few months." In addition to the aircraft themselves, he said, three areas that are of increasing concern to all of us, in view of the approaching deployment, are those dealing with technical publications, ground support and spare parts.

"We are responsible for the timely delivery of all parts of the system," Pelehach pointed out, "and each part is necessary for the performance of the F-14."

Following a film report on the F-14 narrated by Rear Adm. L. A. (Swoose) Snead, Administrative Vice President John O'Brien addressed the group. His theme: subcontractor performance.

O'Brien stressed that Grumman was effecting cost reductions through corporate belt-tightening and other reductions. He challenged the subcontractors to take similar steps. "The economics of the case have a direct impact on the future of this program," he said. "As we pursue these cost reductions we must also concentrate on quality."

After O'Brien spoke, Gavin opened the meeting to questions from the associate subcontractors. Lunch followed at Plant 30, and then the group toured Plant 1 to observe the F-14 production.

Greyhound passes rugged tests, earns 'Grumman Iron Works' tag

In December 1971, a C-2A mysteriously disappeared while enroute from Cubi Point in the Philippines to an attack carrier in the Gulf of Tonkin. No concrete reason could be offered as to a possible cause for the aircraft's disappearance, and it was doubly perplexing because one had been lost under similar circumstances two years before.

Since the mid-1960s, Grumman has produced 19 of the carrier-onboard-delivery (COD) aircraft for service in the Atlantic and Pacific fleets. The C-2A is designed to haul more than 10,000 pounds of cargo and mail up to 1,400 nautical miles, land aboard an attack carrier, refuel, and return to base with a like payload. At times, the Greyhound has been called upon to carry as many as 28 passengers, including many high-ranking civilian and military officials. The twin turboprop Greyhound was a key factor in enabling the 7th Fleet to put a task force into the Sea of Japan immediately after the hijacking of the Pueblo a couple of years ago. At that time, Rear Adm. Marshall W. White, Commander Fleet Air, Western Pacific, said: "The C-2A gives us so much flexibility that we could support three separated groups if necessary."

In one five-day period during the war in Southeast Asia, VRC-50, operating C-2A aircraft, serviced two attack carriers with over 184,000 pounds of critical materials and munitions, with the average flight being approximately 1,000 miles. The squadron and the aircraft earned a Navy unit commendation for the effort. A pretty enviable record for the Greyhound—and you might well understand why the accident caused great concern to the Navy and to Grumman.

Extensive test series

Over the past year, Grumman has conducted an intensive ground and flight worthiness investigation of the C-2A at Bethpage. According to Program Manager Dean Cassell, "The Navy provided us with the oldest C-2A in their inventory in terms of flight time and fleet use for our detailed review program. We felt that if there were a design flaw or a deficiency in workmanship, it would most certainly show up in this aircraft. Deep down inside, we also knew that our reputation as 'The Grumman Iron Works' could really be on the line."

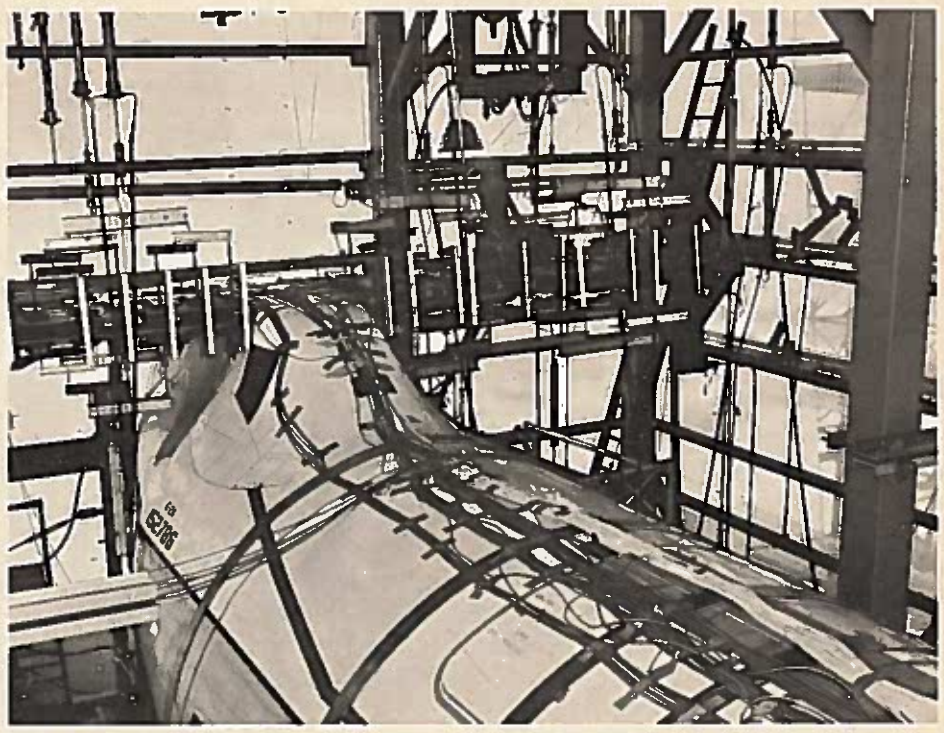
For the first six months of 1972, the aircraft was completely disassembled and inspected. It was then subjected to "the most demanding engineering tests which we could possibly conceive," says Jim Murphy, C-2A project engineer, "and in some cases, more stringent than those of a new production airplane. Hydraulic systems were overstressed from their normal rating, the entire airframe, wings, and empennage were subjected to extensive static tests. These are only some of the types of testing we in engineering subjected this aircraft to."

What were the results of those tests? Cassell summarizes those trials by saying: "All ground tests proved that this airplane was as sound as the day it was delivered to the Navy right off the manufacturing line in 1965."

Second trial phase

The test airplane, C-2A No. 3, was then reassembled and instrumented for the second phase of the investigation, the structural flight envelope. There were 37 flights involved in that sequence, and as Don Fish, C-2A Flight Acceptance manager describes them, "the tests were the same sort that are required of all new aircraft prior to their being cleared for use in the fleet. This 'well-used' C-2A was subjected to complete flight-structural demonstrations, and then some. The results proved that the airplane had maintained its structural integrity and was as strong as the day it was built."

And Walt Berndt, C-2A project pilot commented, "This C-2A handled beautifully, as well as the brand new C-2A I flew through its structural demonstrations in the middle '60s. I give the C-2A an 'up-check' all the way."



Ground tests. Greyhound was subjected to rigorous static testing to prove structural integrity of the carrier-onboard-delivery aircraft.

Grumman has submitted some recommendations for minor changes to be implemented in fleet Greyhounds, and the Navy recently announced the selection of a new propeller for the aircraft.

Besides proving the Greyhound's structural integrity, Cassell feels that there were many other beneficial fallouts from the year of testing. Along with its experience from the fleet, Grumman has learned that changes could be made to the C-2A to make it an even better COD aircraft, and so has proposed a "B" version of the present C-2A to the Navy. "A new follow-on buy to the Greyhound could mean building as many as 24 new aircraft as well as modifying the C-2As presently in the fleet," Cassell said. "A Navy decision on this new procurement should be reached in the very near future."

Finally, Cassell says, "We've proved that the C-2A has earned the accolade, 'Built by the Grumman Iron Works'."

Greyhound flight. Project pilot Walter Berndt is shown at right conferring with Jim Philbin (R) prior to taking C-2A on test flight at Bethpage.

E-2C at Patuxent River for BIS trials

The first E-2C delivered to the Naval Air Test Center at Patuxent River, Md., is now being instrumented in preparation for the start of the flight testing portion of Board of Inspection and Survey (BIS) trials later this month. In June and July, three more airplanes will be delivered to Patuxent to particiate in the trials.

BIS tests are conducted by the Navy before an aircraft can be certified for Fleet acceptance.

message from the PRESIDENT

(Continued from page 2)

activity at Bethpage to prepare for that impact. Vice President Ed Dalva, as manager of operations at Bethpage, will be the focal point for that support, most of which will be in the areas of engineering and manufacturing, since they have the greatest effect on operations at Calverton.

Perhaps Ed is best known for putting together Gruman's first integrated product support organization, a task that required extensive management skill and a close eye to detail. Prior to that assignment, he had been closely associated with several successful aircraft programs as project engineer and program manager.

Another major move we've initiated in preparing the Company for this next phase is the appointment of Vice President Jim Zusi to direct Operations Quality. This decision resulted from two key considerations. First of all, it has become sound practice throughout the industry to have a quality assurance operation which is independent and which has access to top management. Furthermore, in today's aerospace operations, quality assurance plays an expanded role. Not only are they responsible for the basic quality of the aircraft, but they also play a key role in the development and maintenance of procedures, processes, and specifications as well.

Jim's extensive background in both engineering and production should enable him to lead the quality organization in the direction of its larger responsibilities.

Those are key elements of the moves we're making to strengthen our organization to meet the challenges close at hand; but we must prepare for the future as well.

Eye to future

The assignment of Senior Vice President Grant Hedrick to lead Advanced Systems Technology certainly is indicative of the importance we attach to this activity, not only for the next year, but for some years into the future. Grant is recognized throughout this country as one of the pre-eminent leaders in aerospace technology. It should be evident to everyone that we have put one of our strongest, most competent, and most credible leaders into this particular area.

In parallel with this appointment, we have assigned Senior Vice President Corky Meyer to the responsibility of customer requirements. This assignment builds on the large range of Corky's experience. He has been an experimental test pilot, he was active in business development and international sales, he has managed the Calverton operation, and most recently, he directed the integrated production activities of the Company. We believe it is very important to have a person with this type of broad background involved in understanding and interpreting customer requirements. There isn't another firm in the country with a more experienced person in this type of assignment.

These are the highlights of our organizational changes. Basically, when you set up an organization, there are several things you're trying to do:

- Have the people who are involved understand their relationship so they can operate at maximum efficiency.
- Try to make it possible for people outside the Company (we do business with several Government agencies) to understand how these various leaders interact.
- Try to avoid having everybody report to the president, because this becomes an impossible task.

I believe that our new organizational structure achieves these goals.

Although we may have had a shift of responsibilities, I want to emphasize one important point: we have to understand our aircraft systems and provide for their improvement if we hope to have continuing success with these products.

Soundly conceived

Our basic product lines all appear to have long lives because they're soundly conceived and serve unique requirements. But this will be true only as long as we keep them up-to-date through the evolution of capabilities and requirements necessary for that advancement.

Of course, we must continue to look for new ways to reduce costs on these systems. Earlier this year, I informed you of the need to cut operating costs as part of our effort to deliver the F-14 at a price the Navy can afford. To accomplish this goal, we are looking not only at areas where there are large dollar outlays, but at various other segments of the operation as well. This type of examination has to be a continuous process if we are to remain competitive.

There is a final thought I'd like to leave with you: Change is a way of life at Grumman . . . some would even say that change is our business.

We all have a tendency to think back to some particular time and think that if only we could return to that period, life would be more straightforward and comfortable. No matter how comforting that thought may be, I've found that every era has its own particular problems, and until they are resolved, we can't move forward.

At Grumman, we have both the advantages and disadvantages of living in a very competitive industry: changes occur faster in a competitive industry; they provide interesting challanges; but, in some ways, these changes can be uncomfortable. It's an industry where we accept technological change — nobody expects this year's airplane to be the same as the one produced 15 years ago. If we hope to survive and be successful, we must accommodate change in the way we conduct and manage our business, too.

There is great opportunity for ingenuity in the field of management and operations, just as there is in technology. Considering the highly competitive nature of our industry, it is apparent that we must take advantage of these opportunities as well as to strengthen our overall business position.

Grumman to build aviobridges

Grumman Avio Systems Corporation (GRAS) of Grand Prairie, Texas, recently received a contract award of approximately one million dollars from the Massachusetts Port Authority for the manufacture, installation, and servicing of 10 Aviobridges at Boston-Logan International Airport.

Aviobridges are used as a link between airport terminals and the airplanes for passenger boarding. They have been used at airports throughout Europe, Asia, Africa, and Australia for the past 15 years. The Logan terminal in Boston will be the first American installation of the Aviobridge. Completion of installation is scheduled for January 15, 1974.

This is the first award to Grumman Avio Systems Corporation and the VFW-Fokker Company of Holland and West Germany. Under the terms of the joint venture agreement, GRAS has license to manufacture, sell, and service Aviobridges and other airport equipment designed by the VFW-Fokker Company.

Elect Bodden head of national co-op slate

Wendell Bodden, administrator of Grumman's Cooperative Education Program, was elected president of the Cooperative Education Association (CEA) at an annual conference held April 24-26 in New York City. The prime motive of the CEA is to promote and help develop cooperative education as a philosophy in education and in the business world.

In addition to being a co-op consultant to numerous colleges, Bodden has been actively involved with the CEA since 1968.

As Grumman's co-op administrator, Bodden handles the recruitment, selection, placement, and counseling of all students in the Grumman cooperative education program.

Acceptance ceremony. On April 25 at the Naval Air Test Center, Patuxent River, Md., the first E-2C was delivered to the Navy for Bureau of Inspection and Survey (BIS) trials. Commemorating the official start of the BIS trials, E-2C program director Tom Guarino (second from right) presented a model of the E-2C to Rear Adm. R. M. Isaman, NATC Commander. Also pictured during the E-2C acceptance ceremony are: (L to R) Cdr. Bruce Ashley, Capt. J. A. Chalbeck, Admiral Isaman, Guarino, and Capt. J. Simons. (Photo by Jim Wagner.)

Nielsen shoots 939 series for all-time Masters mark

The bowling season is now in its home stretch, and the Whoizees of the Master league just couldn't let the season pass quietly without crumpling two long standing records.

Jack Nielsen was the leader of the Whoizee trio. He opened the four-game set with 223; then he had a spare, eight strikes in a row, a tough 10-pin rap, and closed with a spare for 269. He cooled down to 225, and tacked on a closing 222 for good measure. Add that up and you get 939, which elipses Phil Piacentini's 903 season mark, and John Betterino's all-time Master's record of 933.

Jack Nielsen

While all this was going on, Ed Gabriel fired a 236-212-210-823 and Joe Russo chipped in with 210-738 to aid the team total. Tally those scores and the Masters trio, by shooting 2,500, broke the four-year-old record of 2,475 set back in 1968-69.

Other *Masters league* scores: Vin Crevoiserat, 247-799; Clem Anton, 238-778; Ray Zeller, 225-241-827. On the *Syosset Mixed* alleys: Rita Mathia, 537; John Betterino, 210-581; Eric Bunzel, 220-551; Monica Wojtyniak, 457; Judy Sommer, 473. Action in the *Tuesday Mixed* league: Frank Prochaska, 202-537; Martha Juppe, 523. Top keglers in *Hawkeye Mixed*: Tom Cava, 204-570; Lee Newcomb, 209-510; Tom Murtha, 200-538; Margaret Rodriguez, 491.

A few teams have already clinched league titles. In the *Aerospace league*, the Four Guys grabbed first-place honors by beating out the second place Jesters. In a recent session, Dan Aquilino, led the winners with 212-577, followed by Joe Aquilino, with 508.

The Pirates were victors this year in the *Outpost league*, thanks to the fine woodcarving of John Zamojoin, Joe Forde, Vinnie Mancino, and Jerry Casale.

In the *Grumman Gray league*, Bill Sidor shot 216-584; Mark Mellinger, 216-599; Tony Nintzel, 204-548; and Paul Belies, 214-544. Highlights of *Patchogue Mixed* league play: Val Lindstrom, 502; Dot VonGlahn, 486; Dennis Masterson, 556; Dave Struller, 535; Joan Burgess, 541.

It's been rather close between the Sports and the Mets in the Black league, but the Sports widened the gap on the second place keglers with Irv Austin's 201-218-588; J. Lampasone, 544; and Frank DeRosa, 224-543. Other highlights in the *Black league:* Carmine Vitale, 209-225-608; George Fowler, 213-214-606; Walt Becher, 224-593; Fred Dija, 244-602.

Scura trips Massey for cue title . . . again

George Massey again this year tried to overthrow Cosmo Scura from his 3 year reign as Grumman's pocket billiard tourney king, but failed. Unhappily for Massey, he had to settle again for second place honors in the 16-man field.

In the semifinal match, Scura won the game, 100-60, knocking Massey into the loser's bracket. Massey beat Rein Rand, 100-51, to get a second chance to knock Scura off his three-year throne. But to no avail. The pockets billiard tourney king beat Massey, 100-55, in the finals to extend his title another year.

He's in the 'Army' now

When Grummanite Arnold Palmer—after all, he is also vice president for public relations at Grumman American Aviation—tees off in the British Open Golf Championship at Troon, Scotland, this summer, there will be another Grummanite in the gallery to cheer him on.

Al Casper of EA-6B Publications will be in Prestwick, Scotland, for the international golfing event and he plans to follow Palmer's progress on the historic links at Troon. This will be the 102nd British Open, and the first time it has been held at Troon since 1962—the last year that Palmer captured the prestigious event. Casper, who plays on a golf team at Grumman named "Arnie's Army," says he's looking forward to July when he'll serve as a volunteer in another "Arnie's Army."

'King George'

Ask anyone at Plant 27 who is the top man in table tennis and they'll say . . . "King George" . . . Parent who now has two first place trophies grabbed in the Plant 27 Singles and Doubles Table Tennis Tournament.

On his way to becoming singles champion, Parent trounced Ernie Treubig, 21-8, 21-11; Pete Laturno, 21-13, 21-11; Len Trifaro, 21-10, 21-18; and then victimized Tony Alaimo, 21-15 and 21-10. Alaimo came back from the loser's bracket only to succumb again to "King George", 21-11 and 21-13.

In the Doubles Tournament, Parent teamed up with Conrad Vogel to annihilate all opposition. In the final match, once again it was Tony Alaimo, teamed with Gus Lopes. Unfortunately for Alaimo, he is going to have to wait until next year to beat "King George" as the Parent-Vogel duo overpowered Alaimo and his teammate, 21-19 and 21-10.

On Target

There were two more champs crowned at Wyandanch recently, this time after a quoits tourney that drew 15 teams. Ted Lombardski and Roy Harvey hit the target with consistency as they whisked through five straight victories, closing out their streak with a 21-15, 22-12 win over Gus Lopes and Buddy Baumann.

Softball start

Starting Monday, May 14, slow-pitch softball will be back at Grumman again, with some 20 teams competing in five lunch-period leagues. After-hours play will begin in a couple of weeks.

The lineup of teams and managers:

PLANT 1: Flight, Murray Dannenberg; Old Timers, Dan Aquilino; Gnomes, Al Vota; Misfits, Stan Musinski.

PLANTS 2 & 5: Swingers, Brian Low; Leakers, Ed Leonard; LM Stock, Fred Vitale.

PLANT 3: Chiefs, Steve Giordano; Mets, Bill Arnold; Hustlers, Clarence Warren; Commanders, Bob Jones; Warehouse, Steve Lawrow.

CALVERTON: New Breed, Carl Thilburg; Flight Development, Art Donato; GDS Bill Webster, Ball Busters, Eric Santiago; Old Timers, Ernie Maggi.

WYANDANCH: New Breed, Rudy Reid; Soul Brothers, Sherm Jacobs; Pick Ups, Sid Weihs.

Hooray . . . they did it

It took a while, but the Grumman team got above .500 percent in the South Shore pistol league with a 1,028-828 victory over Meadowbrook. The win put them at 7-6 in league action.

High for Grumman in the .38 and .45 caliber competition was Dave Rice, who fired 271. Other scores included Greg Criscione's 260, John Crawford's 249, and Art McKee's 243.

Ballweg tandem B table champs

The paddles were swinging recently in the four table tennis tournaments sponsored by the GAA. Two divisions of doubles were held in Bethpage with an entry of 17 teams while the annual Singles and Doubles Table Tennis Tournaments held at Plant 27 in Wyandanch involved 42 paddle buffs.

There was quite a bit of racket during the semifinal and final matches of the Bethpage Doubles Tournament, Division "B". Charles Ballweg and Ron Visconti had smooth paddling throughout the tournament slicing off Bill Nelson and Ike Washington, then Walter Lenowicz and Tom Santopetro. In the semifinals, they overpowered the team of Pat Courtney and Lionel Wellington, 21-17, 11-21 and 21-17. But Courtney and Wellington came back from the loser's bracket to replay the undefeated duo.

The "best of the five games" final proved to be the hardest and longest series the Ballweg-Visconti duo played. They moved out ahead with two slim victories of 22-30 and 21-19. Then the tide seemed to turn as the challengers swept the next two games, 21-16 and 21-15. In the final match, the Ballweg-Visconti team managed to keep their winning streak hot, and squeaked by the losers, 21-19.

Upset in final

Things did not turn out so sweetly for the undefeated doubles in the "A" Division finals. Hy Dreksler and Ted Wakulinski were undefeated in the Division "A" Bethpage Doubles until they met the destructive crew of Fred Danner and John Lee in the final match. The undefeated team had swept through the tournament by walloping Danner and Lee in the opening match, 21-16 and 21-16. That match dropped the Danner-Lee team into the loser's bracket where they went on to beat all the other losers, while Dreksler and Wakulinski went on slaughtering all opposition; first, Vin Rerniciaro and Chris Rizzuto, then Fred Sacca and Dan Smith.

The Danner and Lee duo knocked off Frank Sacca and Smith, 21-17, 15-21, and 21-18. That match gave them a second crack at the undefeated paddle champs. And sure enough, it was sweet victory for the paddle duo of Danner and Lee, as they pummeled Dreksler and Wakulinski, 21-10, 19-21, and 21-17.

Shuffleboard standouts

Who ever heard of a hard-fought title battle in shuffleboard? It happens, apparently. Rick Larsen and Al Knight dropped Sal Brucato, and Werner Dauber in a seven-game playoff, 29-42, 44-2, 22-52, 54-11, 43-15, 12-49, 40-27, to earn the team crown at Plant 24.

Wanted

HOUSE: To rent or house-sit, prefer Jericho/Syosset School dis., min. one year, start July 15, one child, two adults, no pets, will offer profitable terms for house-sitting. After 6 p.m. 334-0735.

CAR: '65 or higher Corvair, Monza or Corsa, 4 spd., minor body work OK. Evgs. 694-3198.

ROTOTILLER: Or rototiller-composter, heavy duty for vegetable gardening, Troy-bilt or Ariens preferred. After 5 p.m. 643-3062.

FIXTURES: Used, wall units and gondolas, suitable for display of retail products. Call 12:00 to 3:30 p.m. 249-0922.

CLAM RAKE: Pole and head sand. 587-3877.

BUICK: '56 Century or Special, any condition. After 5 p.m. TU 8-9280.

BOAT: 12 to 14 ft. alum., semi-V bottom with/ without motor or 12 to 14 ft. fbgls. row boat. 724-6050.

DOCKING SPACE: For rent in W. Islip or Babylon area, 21 ft., 8 ft. beam, glass skif. 643-3037.

TIRE & RIM: Spare for boat trailer, 5:30/4.50-12 w/four hole rim. 888-1167.

For Sale

BOAT: '62 20 ft. Thompson, 75 hp Evinrude, sleeps 2, head full canvas covers & cushions, elec. start/ shift, swim ladder, bilge pump, extras, $1,250. 669-6625.

MERCURY: '69 Cougar, white w/blk. vinyl, burgundy interior, all power, r/h. Evgs. 744-1854.

COUGAR: '68, auto, fac. air., new tires, batt, all power, vinyl top, blue/blue, 38,000 mi., $1,600. HA 7-9142.

STUDEBAKER: '63 2-dr. sedan & station wagon w/ sliding roof, 6-cyl., auto trans., needs motor work, extra tires & snows w/rims, both for $125 or best offer. After 6 p.m. 584-6693.

FORD: '68 LTD Brougham, lime/gold w/blk. vinyl, all power, disc brakes, new brake linings & w/w tires, 4-dr. hd. top, r/h, $900. 938-2070.

FORD: '66 Fairlane 500 wagon, 6 cyl., stand. shift, roof rack, $250. Evgs. WE 8-8961.

CHEVROLET: '66, V-8, 2-dr. sport, pow. steer., r/h, new tires, $275. WE 5-8166.

DUSTER: '72, r/h, pow. steer, auto trans., $2,195. LT 9-6588.

BUICK: '64 convertible, all power, auto. $175. JU 8-9148.

VW: '69 Van, fm-stereo tape deck, custom paint, tires L60's, low mileage. $1,950. 864-3661.

DODGE: '65 Polara, V-8, auto trans., power steer, low mileage, $300. JU 1-4814.

HAM EQUIP.: Hallicrafter SX-111 Mark-1 receiv. w/ Hallicrafter HT-37 transmitter, formerly W.B.2.Q.F.V., $275. Evgs. MO 9-9020.

COMBINATION: 23 in. TV. b/w, AM-FM stereo, radio, phono, $225; 48 in. Walnut cocktail table, $30; Danish couch, $15. 799-8089.

FURN.: Dng. rm. set, walnut, Formica top, $90; blond 6-drawer dresser, $15; full size blond cabinet hdbd. bed, $15; ¾ mattress & boxspring, $10; Olympic 23 in. console TV, needs work, $15. 666-4524.

LAMPS: 2 matching custom cork lamps w/shades, $15. Evgs. 293-8343.

RANGE: 30 in. Welbilt coppertone, elec., 4 burner, best offer. 666-6725.

MISC.: (1) kitchen set w/leaf, 6 swivel chairs, $275; (1) picture enlarger, $45; (1) boy's bike, 20 in., $20. After 4 p.m. SU 1-6798.

MISC.: Eng. cylindrical slide rule, $20; G.E. 18 cu. ft. freezer, $200; Norge 10 cu. ft. frig., $75; Sears Kenmore washer motor & timer, $15; antique satin drapes, dbl. width, $20; triple width, $30; Redwood 6 ft. table, 2 benches (2 in. thick), $35; old oak medicine cab., $25; old col. drop leaf table, $15. Evgs. 921-3192.

WALL OVEN: Hotpoint, white enamel, $25 or make offer. PY 9-7549.

ACCORDIAN: 120 base, Frontalini, full size, grey pearl finish. Evgs. CH 9-2842.

STEREO EQUIP.: Dynaco ST-80 ampl., FM-5 Tuner, PAT-4 Pre-ampl., warranty, in sealed cartons, $350 for all, other eqcip. avail. 299-3321.

PUPS: Min. Schnauzers, AKC, docked, cropped, shots, homebred. JU 4-5651.

PUPS: Beared Collie, champion sire prize winning dam., forebearer Old Eng. sheep dog, small. (212) 225-2593.

PUPS: Labrador Retriever, AKC, reg. whelped March 9, x-rayed, sired by '72 Champion Sundowns Paul, 25 champions in 3 generations, yellow or blk.. $200 to $225. 273-0627.

For Sale

BASSET HOUNDS: AKC, champion sired, tri-color, red & whites, whelped Feb. 21. WE 5-7770.

BABY CARRIAGE: Stork Line, $10. After 4 p.m. 473-9049.

BIKE: 3-speed, folding type. (212) 343-6875.

RING: Diamond Solataire engagement, 1.5 karat, appraised at $1,600, will sell reasonable. 727-1051, before 7 p.m. / 981-8031 after 7 p.m.

AMPLIFIER: Univox 35 warr. bass amp. piggy back 15 in. speaker, $70. PE 5-1862.

CERAMIC MOLDS: Large & small, select from many mold companies. OV 1-2337.

TIRES: G78-15, 5 new, orig. Chev. Impala equip., $27 ea. 367-4107.

FISH TANK: 40 gal. Crown, w/ stand, full hood, lights, heater, glass gravel, $65. 423-3611.

ORGAN: Hammond Model M-2, dbl. keyboard, $350. After 5 p.m. 588-1920.

MISC. AUDIO EQUIP.: Bogen AM-FM receiver, $45; Fisher AM-FM tuner. $30; Rek-o-kut turntable w/ stereo arm, Shure cartridge, $25; 7 in. tape rerodrer, $15; 3 in. tape recorder, $10. 543-0538.

CAGE BIRDS: Exotic Finches, Lovebirds, Canaries, Cockatiel, various cages. 483-6125.

For Sale

SEWING MACHINE: Antique Treadle; 1907 Bobbsey Twins novels, antique students desks. 221-0107.

POOL EQUIP: Above ground 16 ft. x 32 ft. Bilnor pool frame; Haywood sand filter w/ ¾ h.p. motor, pool cover, chemicals, all accessories, used 1 yr., ask. $600, rig., $1,000. After 6 p.m. 423-2117.

TAPE TRANSPORT: Bell T 212, two and four track heads. 261-0234.

TWIN BED: Missing hdbd., eclipse mattress & boxspring, $15. 589-8479.

MISC.: Jigsaw 12 in. throat, $25; small wood shaper ½ in. shaft, $30; both for $50. 878-1647.

MISC: Crib, chest, carriage, swing, hi-chair, car seat, car bed, walker, lamp, bath tub, tran. seat, boy's clothing, infant to size 5, used for one child. 581-6770.

SUPER BEETLE: '71 auto, sun roof, stickshift, disc-brakes, am-fm stereo, door mount speak., custom carpet, console, deluxe steering wheel, 2 new tires, rear defroster, gravel guards, air scoop, ask. $1,300. 433-7476; after 6 p.m. (212) 699-4495.

MISC: A/C, 14,000 BTU, $125; 2 soda fountain fountain machine dispensers and 'AHMES carbonating system w/ regulator, $140; National cash register, old, $35. 585-7837.

at your SERVICE

This is a free service to Grumman personnel for non-commercial advertisements, accepted on a first-come, first-served basis. Classified advertisements are carried in PLANE NEWS only on the basis that everyone replying to such advertising will receive fair and equal consideration regardless of their race, creed, color, or national origin.

Type or print ad on form available at Employees Service and Engineering counters, and send via interplant mail to PLANE NEWS, Plant 5, Bethpage. List home phone (with area code if outside Nassau or Suffolk). Limit: one ad per person per issue. No item under $10, no firearms or ammunition.

GRINDING MACHINE: Heavy duty, sharpen any type & size mower, lawn mower parts & extra grinding stones incl., $40. AN 1-0265.

CARPET: 11 ft, 11 in. x 13 ft. 5 in., Commercial, never used, blk. & brown, gold tweed, rubber backed, $65. 473-4576.

SADDLE & BRIDLE: Western luggage tan, hand tooled. 249-0517.

AQUARIUM: 55 gal. w/ stand, pump, filter, $75. JU 5-8334.

FREEZER: 18 cu. ft. chest, make offer. 265-3713.

BED: Twin, natural ranch oak, $40. 671-3417.

BIKE: 24 in. boys, never used. HR 3-4477.

WASHER & DRYER: Port. Kenmore, used 4 months, 10 lb. capacity, 24 in. wide, $200 for both. 928-5616.

WINDOWS: (5) jalousie porch, Southwest Brentwood. ¼ in. thick glass, complete w/ storms & screens, 58 ¾ in high, (4) 31 in. wide, (1) 37 in. wide, ask. $150. Evgs. MO 7-0677.

VW: '70, blue, stand., roof rack, Michelin X radial, 40,000 mi. Evgs. 261-5709.

MAVERICK: '70, 6-cyl, auto., r/r, new paint, batt., shocks, no reasonable offer refused. 472-3264.

BOAT: '72 Cobia, 17 ft, 50 hp Johnson, elec. start, cox trailer. $2,380. 261-5048.

BED: Hospital, head & leg adjustment, 6 in. mattress, $150. PR 5-1011.

LAWN MOWER: Rotary, 3 h.p. Briggs & Stratton eng., large cutting area, $20; hand mower, $10. 732-9078.

MISC.: Cocktail table, Carrara marble, 20 x 60 in., $50; Heathkits, fm tuner FM-3, pre-amp W3A, Collaro changer, $50; lamps. 694-4786.

MISC.: 5.60 x 13 tire, $15; baby dresser, $20; sewing table, $10; refrigerator, 14 cu. ft., $10. 922-3063.

MISC.: FM stereo antenna channel master 4408-G, $15; 1961. Childcraft, 15 vols, $50; 5-dr. maple dresser, $25; EMC tube tester, $20. 543-2423.

MISC.: Carriage, converts to car bed; manual mower, $10 ea. 757-0438.

TV: 18 in. portable color, 2 yrs. old, ask. $175. 423-3596.

MISC.: Spanish, 9 piece king size bdrm set, fruitwood, $850; Magnavox Astro-sonic console stereo, 70 in. fruitwood cabinet, Mediterranean style, $200; Spanish Admiral color TV, dble speakers, 23 in. screen, $375. 277-0919.

FURNITURE: Love seat, club chr., $50. AN 5-1024.

MINI-BIKE: Rupp Scrambler, helmet, $150. After 4 p.m. HA 7-3187.

HAM EQUIP: HW 32 - HW 12 - HP 13 - HP23 - GH12. 324-5850.

BOAT: Winner Cougar 1969, 19 ft. 8 in., 85 outbd. Evinrude, '70 trailer, full curtains, extras, $2,300. WE 1-2339.

BOAT: 13 ½ ft., sail, out bd., oars, trailer, 5 hp Evinrude, $475. 751-0456.

CUSTOM RANCH: 100 ft. x 160 ft., 3 bdrm., dng. rm., eat-in-kit., full bsmt., fenced backyard, near L.I.E., $29,990. 924-3047.

MUSTANG: '65, 8 cyl., std., orig. owner, $475. 423-7230.

STEREO: Motorola console, am-fm radio, blonde wood, $75. Call between 11 a.m. and 5 p.m. SU 5-6712.

PUPPIES: Great Danes, males, A.K.C., Harlequins & blacks, earcropping & 1 shot incl., sire & dam on premises. 735-0470.

BUICK: '70 Skylark, 6 cyl., auto. trans.. power steer., tan, $1,250. 273-4347.

BEDROOM SET: Girls 6 piece, white, $100. WA 1-1916.

CALCULATOR: Electronic desk 8 digit, floating decimal or fixed 2, 3, 4, places, constant, leading zero suppression, overflow/exceed, ask. $50 firm. 286-0198.

MISC.: One barrel-back tapestry chair, $25; one drum table, $15. 931-5229.

MISC.: Boys bike, 14 in., $15; antique grinding stone sitdown, $45; Edison baby stroller, $10; pool pump for 15 ft. pool, $10; 30 gal. fish tank, pump and access., $50; patio slate 30 pcs., $10. 796-5872.

ELECTRONIC EQUIP.: EICO Scope (460 W) w/probes, $100; Sencore tube chkr. (TC 154), $65; color/dot gen. (CG 153), $100; Degaus coil, $10. HA 3-3611.

AIR COND.: 5000 BTU Fedders window type, $64. FL 4-3200.

ORGAN: Ace-tone rock, four octaves, five stops, vibrato, $80. SU 5-6576.

MISC.: Fedders 8000 BTU a/c, mahogany front, $75; kitchenette set, 42 in. round Formica top table, four swivel chairs, $75; sewing machine stool, top lift, beige leather, $12; desk chair, coral leather, swivel, $18; round 32 in. mirror, $15; patio umbrella and metal table, $20. 473-0889.

VW: '67, w/'69 eng., new brks., $650. 751-5769.

For Sale

TRIUMPH: '70 Spit-fire, am/fm, orig. owner, $1,250. IV 6-2091.

HONDA: '70 CB 750, 16,000 mi, xtra equip, $1200. AN 1-0984.

SAILBOAT: 19 ft. Lightning #7320, trailer, two sets dacron sails, spinnaker, #100 mooring, canvas cover, paddle, anchor, $850. 864-7565.

SCOPE TEK: #511A, updated 50 MV, sensitivity per CM, built in .2MV to 100V calibrator, 10MC Banapass, $125. JU 4-8195.

AMPLIFIER: Fender twin reverb with twin Jensen speakers, $250. 751-1116.

MUSTANG: '65 conver., V-8, $350. AT 6-0706.

TABLES: Walnut extension dining room, two leaves, $125; kidney shape vanity, mirrors, fitted skirt, $20. 661-4609.

MOBILE HOME: 12 ft. x 50 ft., 5 rooms. 691-0657.

DINGHY: 7 ft. fbgls., 3½ hp, $145. After 6 p.m. LT 9-0881.

BOAT: 12 ft. fbgls., fish well, trailer with tilt bed, 7 hp outbd., remote, gas tank, $400. CH 9-4007.

HOUSE: Dix Hills, ranch, 3-bdrm., eat-in-kit., lvg. rm. w/fireplace, dng. rm., den, extra room, 1 car gar., fin. bsmt. w/ kit., 2 baths, 1/3 acre, $40,500. After 4 p.m. 667-6511.

PLYMOUTH: '69 Fury III, 318 C.I., 2 dr., a/c, p/s, 52,000 mi., $1600. JU 6-7044.

SAILBOAT: Sunflower, 11 ft., 55 sq. ft. sail, $165. 692-2878.

PONTIAC: '68 wagon, 8 cyl., r/h, a/c, p/s, $850. (212) 969-7345.

DINING ROOM SET: Table, formica top, 4 chairs, modern, ask. $90. 666-4524.

AIR COND.: G.E. window unit, 6000 BTU, 7½ AMPS, model KE 506, one season use, $100. LO 1-9207.

HOUSE: Uniondale, expanded cape and full dormer, 4-bdrm., 2 bath, bsmt., den, laundry rm., 1½ gar., sewers, 100 AMP, extras, ask. high 30's. IV 5-3041.

HOUSE: Huntington Station, 2 fam. split, self-supporting, both apts. have fireplaces, 2/3 acre, 4 baths, 3 car gar. HA 7-0245.

HOUSE: Brightwaters Village, 3-bdrm., appl. incl., 2 car gar., fenced, low taxes, low 30's. After 6 p.m. 666-8166.

CORVETTE: '69 coupe, 350 cu. in., yellow w. blk. int., a/c, auto. trans., 4 wheel disc brakes. Evgs. 549-9697.

OUTBD: '68 Mercury, 95 hp, $500. 691-7519.

VW BODY: '63, has wheels & tires, less front fender & front bumper, trans-axle & front axle o.k., no engine, $30. JU 7-0830.

OUTBD MOTOR: 40 hp Evinrude (twin fast), elec. start w/controls, $300. Evgs. WE 5-0885.

FALCON: '63, 2 dr. sedan, new front tires, $50. 669-2587.

IMPALA: '66, 4 dr. hd. top, 283 8 cyl., new brakes, exhaust system, $500. 751-2321.

MISC.: 0-1 and 1-2 Micrometer set, $12.50; Last Word/ Indicator & magnetic stand, $12.50 981-9739.

PUPPIES: Labrador retriever, A.K.C. reg., champion sired, copy of pedigree on request, x-ray. 273-0627.

SOFA: Kroehler, 64 in., gold, $50. (212) 343-8428.

MISC.: Bedroom set, solid elm, dbl. bed, chest drwrs, dbl. dresser w/mirror, 2 night stands, $350; dining room set, limed oak, dropleaf tbl. seats 10, 6 chairs, china hutch, $300; humidifier, auto., $45; man's suede leather car coat, full alpaca lined, $60; sofa-bed, new upholstering, slip cover, $300. 757-2141.

OVEN BROILER: Portable Presto, 17x11x16, never used, $15. HA 7-6399.

BED: Colonial white twin size, $30. 265-7036.

DRUMS: Red & blue sparkle, 20 in. bass, 2 mounted tom-toms, one floor tom, snare, high hat, 2 cymbals w/stand, $100 firm. After 6 p.m. 543-3760.

DRUM SET: Complete: 781-0671.

CAMPER: '65 Wayfarer tow-behind by Nimrod, sleeps 2-4, electr. outlets, nds. canvas but have blueprints, $50. SU 1-6495, after 6 p.m.

BED: D.L. Lee pine cannon ball bed with spindles, match mattr. & box springs, $95. 585-9639.

VW ENG.: Cranksshaft, completely done over eng., $200. 212-591-8288.

CORVETTE: '68 coupe, blue, 427/390 hp turbo trans., am/fm, side pipes, extras, best offer. 585-5530.

HOUSE: North Babylon, 3 bedrm., split-level, panel. play rm. w/cedar closet, 1½ baths, cellar, att. gar., patio, lndscpd., 100x120, fenced yard, $36,000. 587-3613.

For Sale

HOUSE: Eatons Neck, 4 bedrm colonial, 2½ baths, panel. den w/raised hearth, eat-in-kitch., fin. basemt. w/bar, nr. beach, mooring rights, immed. occup., no brokers, $59,900. 757-1621.

LAWN MOWER: Gas powered, Briggs & Stratton eng., self-prop., 21 in., $35. SU 1-5730.

RENAULT: '68 4 dr. sedan, blue, 4 new radial tires, 70,000 mi., 30 mg. 4 spd. on floor, $395. 864-3010.

HOUSE: Brentwood, southeast, ranch, 3 bedrms., eat-in kitch., din. rm., 75x200, full basemt., gar., s/s, $31,500. 581-6704.

HOUSE: Babylon, 3 bedrms., 1½ bath, lg. kitch., din. rm., w/w, gar., utility rm. all appli. 661-0448.

SAILBOAT: Sunfish, w/ spar bag, complete, $395. LI 1-8590.

MISC.: Heath HR-10B Receiver, DX-60B transmitt., $65 ea.; Hy-gain 18AVQ 80-10 vertical antenna, $55; Johnson t-r switch, $23. IV 9-9717 after 6:30 p.m.

BOAT: Chris Craft, 23 ft. cavalier cabin cruiser, sleeps 4, fbgl. bott., new inboard eng., ask. $1,250. PO 7-4464.

CAMERA: 35mm, SLR, Praktica, fx3, w/ f2.0 50mm lens, 200mm tele. F4-5, cases included, $35. 728-1930 after 6 p.m.

POODLES: Minis, toys, pockets, show and pet, aks., champ. sired. WE 5-2083.

LE SABRE: '68 2 dr., hdtp., vinyl tp., p/s, p/b, orig. owner, low mi., $895. 643-8932.

HOUSE: Huntington Village, 2-family house, separate entr., 2-zone heating, newly sided, $42,900. 266-1497.

TICKETS: Opera, Lincoln Cntr., 9/22/73 Tosca, 10/20/73 Faust, two tickets for each, orchestra seats. N. Louis, Ext. 7067.

BOAT: '62, 18 ft. plywd./fbgl., '64 100 hp Merc. outbd., 4 wheel Holsclaw trail. '66, $450. 265-4319.

DESK: Early Am. trestle desk, clear pine, lt. walnut stained, 4 draw. w/wht. hardware, approx. 40 in., $45. 587-4307.

HOUSE: W. Farmingdale ranch, ¼ acre, panel. liv., din. rm., firepl., 3 bedrms., 2 baths, eat-in-kitch, patio, fenced, immed. occup., low $40's. CH 9-2873.

TRAIL. HITCH: For VW bus, $10. 785-5331.

HOUSE: North Babylon, 5 rm. ranch, full basemt., laundry rm., w/sink, gar., screen, patio, plaster walls, low taxes, nr. schools, shops, ask. $27,000. 587-8831.

MISC.: '72 4 hp. Mercury motor, long shaft, f-n-r gears, 12 hrs. used, $220; air cond., 5,000 BTU, Philco, 3 yrs., $70. LI 1-5407.

TOYOTA: '71 4 dr. sedan, a/c, r/h, auto. trans., yellow w/blk. vinyl roof, 21,000 mi., $1,500. 751-0043.

TIRES: Two Uniroyal studded snows, L78, $60. 938-6140.

OBITUARIES

Plane News has received word that death has come to the Grumman personnel listed below. We extend sincere sympathy to relatives and friends.

IRVING S. CROTHERS of Electron Beam Welding, Plant 2, died April 25 at the age of 55. He had been with the Company over ten years, and lived at 815 Udahl Road, West Islip.

ALFRED DE FALCO of Structure Final Assembly, Plant 4, died April 25 at the age of 51. He had been with Grumman 11 years and lived at 53 Storey Ave., Central Islip.

MANUEL P. ALFONSO of Drop Hammer, Plant 2, died April 29 at the age of 43. He had been with the Company since 1953, and lived at 622 Third Ave., East Northport.

ROGER J. PHAGAN of Guidance Navigation Systems Design & Analysis, Plant 35, died April 30 at the age of 50. He had been with Grumman 10 years and lived at 22 Bea Avenue, East Northport.

GUS J. PAPAZISSIS of P/S Servo Training Development Engineering, Plant 25, died May 2 at the age of 51. He had been with Grumman over eight years, and lived at 53-60 Hollis Court Blvd., Flushing.

For Sale

MG: '67 Midget, blue, blk. int., $650. 261-5557.

HOUSE: Syosset. lg. cape, 3 bedrms., den, liv. rm., din. rm., 2 baths, gar., nr. shops/trans., 364-2924.

HOUSE: Commack, 3 bedrm., hi-ranch, 2½ baths, fl. basemt., den, 2 var gar. ¼ acre lndscpd., a/c, all appli., walk to schools, $39,90. 864-2226.

SAILBOAT: Star no. 4845, Lippincott, alum. cast, 2 suits sails, galvan. trail. w/brks., ready to race. HR 2-2237 after 6 p.m.

CHRYSLER: '63 Newport, no rust, $275. 929-4626.

PUPPIES: Shelties, AKC reg., champ. sired, $60-75. 751-1376.

IMPALA: '62, V-8, 77,000 mi., $160. 543-4415.

MOBILE HOME: 12x55 ft., 3 lg. rms., fully a/c, 10x30 patio w/awning skirt, shed, unfurn., 589-1547.

HOUSE: W. Babylon, 3 bedrm. ranch, panel, liv. rm., firepl., form. din. rm., eat-in- kitch, patio. $32,500. 587-8197.

HOUSE: Huntington, 3 bedrm., hi-ranch, 1½ baths, pan. fam. rm., liv. rm., eat-in kitch., gar., 2-zone heat, s/s, w/w, many extras, high $30s. 423-2692.

BOAT: Chris Craft, 23-ft., fbgl., 155 hp V6, deep V full vinyl tp. etc., 283-3248.

GTO: '69 conv., 400 ram air mark 3, p/s, p/b, 4 spd. Hurst posi-411 read, low mi., am radio, fm 8 trk. tapedeck, $1,800. OV 1-7095 evgs.

SATELLITE: '73 Plymouth, sta. wagon, full equip., powered, a/c, 5,000 mi., $3,975. 623-8992.

HONDA: '71 350 cc, new batt., 2 bars, sissy, $600. 586-6471.

HOUSE: E. Meadow, birchwd. cape, brk. center hall, liv. rm., din. rm., 4 bedrms., 2 baths, 15x30 fam. rm., eat-in kitch., att. gar., fin. basemt., 19 ft. ref-freez., all appli., s/s, immed. occup. $42,000. IV 1-0010.

VW: '69 beetle, blue, radio, low mi., $750. '66 389 cu. in. GTO eng., nds. to be rebuilt, $35. PI 2-7975.

BOAT: Chris Craft, 25 ft. cabin cruiser, 185 hp cc., press. water, full galley, sleeps 4, $1,750. 734-6619.

STA. WAGON: '65 Ford, new tires/brks., etc., $200. 724-6050.

VW BUS: '71, am/fm, red/white, $1,600. 325-1735.

HOUSE: Lake Ronkonkoma, 3 bedrms, calif. ranch, firepl. in liv. rm., fin. basemt., w/bar, fenced, low taxes, $27,500. 588-1364.

MISC.: 3x100 ft. turkey fence wire, w/four 8 ft. metal posts, $30; four wooden kitch. chrs., $15. 588-6364.

KITCH. SET: One tbl., oblong w/leaf, white marble formica tp.; four chrs., turq. leather seats. SU 1-0177 after 6 p.m.

PIANO: Baby Grand, inc. delivery and tuning, $375. 888-7949.

VW CAMPMOBILE: '70, sink, icebox, tbl., radio, rebuilt eng., roof rack, $1,950. LT 9-5019.

HOUSE: New Hyde Park, 4 bedrms., 2 full baths, brick cape, mod. kitch., din. rm., liv. rm., 1½ gar., full basemt., appli., 1/3 acre, trees, $48,000. 724-2708.

POODLES: Two toy, female, white, seven weeks, shots, purebred but no papers, reasonable. 744-3342.

VAN: Hot dog wagon, International "step-in", no trans., equip. can be purchased, 289-5545.

BIKES: Girl's, 20 in., banana seat, hi-rise bars, basket, $25; boys, 26 in., 3 spd. Rudge, $30. OV 1-8134 after 5 p.m.

RUGS: Oriental w/felt pads, 6x9, 9x12, both $75. JU 5-8992.

KARMANN GHIA: '71 coupe, yellow, autoshift, a/c, am/fm, 4 new w/ tires, rr. defrost., 2 snows, 44,000 mi., gar., $1,995. 585-5802 days.

LAWNMOWER: Riding Sears, 6 h.p., 24 in. cut, $125. SU 5-3778.

MISC.: Hot water coil for tankless heater, 7.5 gal. cap fits, am std. boiler & others, used less than 1 yr., $25. HA 7-9142.

JETSTAR: '65 Olds, 39,000 mi., V-8, p/s, p/s, auto. trans., 4 dr. sedan, ask. $595. ED 4-8942.

POTS: New 11 pc. Ducan Hines by Regal, still in fact. carton, $25. LR 5-3618.

PIANO: Console, cable, walnut fin., compt. style, w/banch, approx. 3 yrs., never used, ask. $575. 692-2738 evgs.

HOUSE: Plainview, hilltp. ranch, 3 lg. bedrms., poss. 4th, den, 2 bath, firepl., laundry. mud. rm., 2½ car. gar., many xtras, ask. $56,000. 692-2738. evgs.

MINK COAT: Size 12, full length, natural. 862-8371.

VW: '69, r/h, $900. 938-8956 after 7 p.m.

For Sale

PIZZA EQUIP.: Bakers Pride oven, 2½ months, w/ pans, mixer, retarder. 212-723-7244.

ORGAN: Lowrey spinet, all voices, less than 4 mos., best offer over $500. 273-3622.

MISC.: Stand. kitch. sink w/fittings; 25 in. electr. stove, 4 burners; elect. hot water heater; Hollywood bed, single size. 543-4614.

SAILBOAT: Pennant 20 ft. sloop, cradle, mooring, outbd., etc., ready to sail, $1,500. 212-767-7271.

FORD: '69 LTD, sta. wagon, a/c, full pwr., $1,600. 368-0483.

LAWNMOWER: Atlas 20 in. self-propell., rotary, 3½ hp Briggs/Stratton eng., $30. 581-1291.

SAILBOAT: "Peanut" class, 9 ft. dinghy, w/dacron sails, used one season, racing or sailing, $300. 433-1110 evgs.

LAMPS: Two royal blue glass base, black shades, 42 in. tall; two oil paintings to match; $100 for all. 751-2254.

PLYMOUTH: '69 Fury III, 2 dr. hdtp., V-8 318, red/blk., auto. trans., 3:23 posi-tract., tint. glass, trail. tow. package, brake-control, weld. hitch, $1,100. 667-4864.

CHALLENGER: '70, a/c, new tires, auto. trans., ask. $1,900. 581-3101.

GOLF CLUBS: Mens, rh, 9 irons, 4 wds., bag. 981-6141, after 5 p.m.

VW: '65, r/h, $100. CH 9-3081 after 5 p.m.

HOUSE: Lake Grove, 3 bedrm. ranch, 2 bath, 2 car att. gar., all appli., w/w, prof. lndscpd., corner lot, fenced, $35,000. 585-8942.

BOAT: Pearson 22½ ft. Electra, main, jib, genoa spinnaker, 6 hp outbd., fully equip. 261-0234.

VW: '68 Squareback, 57,000 mi., snows, fm, 8 trk. stereo, new batt., $950. 589-5931.

FORD: '66 Custom 500, 8 cyl., body great, nds. neg. work, rr. window broken, best offer. N. Keane, Ext. 87287.

HOUSE: Farmingdale, colonial, 3 bedrms., new eat-in kitch., bath, full din. rm., liv. rm., sun porch, fin. basemt. rm., screen. patio, ohw basebd. heat, nr. trans., school distr. 22, low taxes, detach. gar., $34,500. CH 9-9313 after 4 p.m.

HOUSE: Lindenhurst, 6 rm., 100x100, $27,000. TU 8-7678.

HOUSE: Levittown, 5 bedrm. ranch, 2 baths, gar., decor., low taxes, nr. Grumman, reduced to sell, $31,500. PE 1-8243.

HOUSE: No. Patchogue, 3 bedrm. ranch, liv. rm., lg. kitch., fin. heated basemt., w/w, s/s, refrig., washer, dryer, pool, many extras, 75x120 fenced plot, 5¼% mortgages avail., $26,500. 475-9212 after 6 p.m.

HOUSE: East Meadow, 2 bedrm., Cape Cod, w/ expansion attic, new appli., fin. basemt., gar., low $30,000s. 538-7816 after 5 p.m.

LAND: Rio Rancho Estates, Albuquerque, New Mex., 589-4856.

HOUSE: Oak Beach, 7 rms., 50 ft. from water, winterized, $31,000. HA 7-0245.

HOUSE: Huntington Stat., 2 fam. self-support., 14 rms., 2 firepl., 4 baths, 3 car gar., 2/3 acre. $60,000. HA 7-0245.

HOUSE: Massapequa, split-level, four bedrms., 2 baths, eat-in kitch., din. rm., paneled fam. rm. w/ firepl., att. gar., fenced yd., corner plot, $38,900. 691-1630.

HOUSE: Farmingdale, 7 rm. ranch, 3 bedrms., den, fin. basemt., 1½ baths, w/w, covered patio, att. gar., all new appli., walk to schools, many extras, $40,000. 249-4083.

MOWER: Sears Craftsman, reel type, self-propel., 21 in., $50; Jacobson Snowblitz, 17 in. snowblower, used one season, like new $65; both for $100. 643-3062 after 5 p.m.

COTTAGE: Lindenhurst, nr. town dock, lg. liv. area, 4 rms., doub. gar., 38x104 ft., hot air heat, principals only. MO 1-9026.

HOUSE: 7 rms., paneled, w/w, appli., 2 zone heat, a/c, gar., ask. $35,700. 796-8974.

MISC.: Port. record player, Webcor, $10; golf clubs, rh, lh, $10/set; Black recliner, $25. 681-9588.

PUPPIES: Golden retriever, males, females, akc. reg., $150. MA 3-2081.

REFRIG.: Philco, white, 14 cu. ft., 2 dr., bottom freez., frost free, $60. PY 9-8831.

TV: Zenith, 18 in., b/w, w/stand, 3½ yrs., $50. 724-4312.

DESKS: Cole steel, 2 file drawers, gray, $40; solid maple tp., front, 8 drawers, 24x36 draw. boarfi, $35; drapes and wal., 95 in. x 13 ft., $35. 333-2751.

APT. DRYER: Maytag, 115v service, coppertone finish, $55. 586-5339.

For Sale

CARRIAGE: Biltrite coachette, navy w/white trim, converts for carbed or bassinet, complete, $30. 893-1472.

MISC.: Chest from Spain; Mexican sunburst mirr; Chapin sprayer; 30 gal. fish tank, ham station. 751-0691.

DIN. RM. SET: Walnut, tbl., 6 chrs., buffet, china closet, 1 leaf, reason, offer. IV 1-7513.

PIANO: Lester "Betsy Ross" console, blond, $400. 249-4067.

POOL LINER: Vinyl pool liner, new heavy duty, 20 mill., 21x48, $35. GE 7-3217.

TRAINS: "N" gauge, 13 eng., 2 dummies, many access., bldgs., pts., track, etc. $100. 888-7557.

POOL: 24 ft. x 4 ft., heavy gage liner, ladder, vacuum, filter, $150. JU 8-1998.

DIN. RM. SET: Nine pc., French, 3 yrs., pads incl., $700. 273-4492 evgs.

BUILT-IN OVEN: Magic Chef, gas, new-never used, $100. 212-738-1775.

AIR COND.: Hotpoint, sliding wndw. mount, 5800 btu, 7.5 amps, 115v., used 2 seasons, $75. 265-8018.

MISC.: Four poster beds, three, bedrm. set, formica kitch. set, ping-pong tbl., desk, dog house, storage closet, reason. offer. 864-8661 after 4 p.m.

TIRES: LR78x15 radial, 2 new Kelly Springfield, fit Caddy, Lincoln, Chrysler, w/w, $35 ea. 261-3167.

VW BUS: '69, 36,500 mi., recently rebuilt eng., xtra mount. snows, radio, 587-1099.

RAMBLER: '63, good body, runs good, $100. 289-0121.

DATSUN: '65, 25 mpg., $125. 261-0975.

MAVERICK: '72 Grabber, 6 cyl., std. shift, hvy. duty. batt., susp., buck. seats, $1,800. 924-6081.

YAMAHA: '67, 305cc, 5 spd., 9,000 mi., lugg. rack, new batt., $375. 643-2613.

CHARGER: '70, vinyl roof, tint glass, buck. seats, 383-4 barr., mag wheels, p/s, p/b, low mi., gar., $2,150. 598-3244 after 6 p.m.

CUTLASS: '67 delux, p/s, p/b, auto. trans., V-8. LT 9-1496.

DUNEBUGGY BODY: On VW frame, lights, seats, windshield, 14 in. wheels, best offer over $250. 727-8764.

GREMLIN: '72, V-8, h.d. susp., tint. glass, am/fm, posi-rear, quick steer., $1,695; Hodaka, '65, 100cc, $200; Honda '66, CB160, rebuilt eng., elec. start., $215. PY 8-4258.

MERCURY STA. WAGON: '69 Marquis, all pwr., a/c, vinyl tp., am/fm, auto. cruise contr., lugg. rack, $1,975. 379-6149 after 5 p.m.

VW: '65 conv., red, nds. body work, $400. AN 1-0984.

VW: '67 beetle, sunroof, beige, $725. 751-1256.

MUSTANG: '72, white w/warranty; Mag wheels for Datsun 240Z. 666-0370.

BOAT: 10 ft. sailing dink, w/trail., ready for water, $375. 261-9295.

BOAT: Glasspar, 15 ft., 40 hp. Evinrude, fold-down seats, permanent gas tank, access., trail., navy tp., ask. $800. 585-1097.

BOAT: '71 Speedyak 75, 12 ft. port./inflat. boat, 5 person, 1200 lb. cap., takes 25 hp. outbd., $350. 541-0422.

plane
GRUMMAN
news

Published twice a month for the employees of Grumman Aerospace Corporation, Bethpage, N. Y. 11714, as a function of the Public Affairs Dept., Vice President J. B. Rettaliata, director.

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Mobilhealth van offers traveling clinical services

Grumman Health Systems recently delivered the first Mobilhealth Detection Office (MDO) to the Englewood, N. J., firm of Mobilhealth Detection Office, Inc.

The 35-foot-long, multi-phasic health-screening "office-on-wheels" is designed and built by Grumman Health Systems. MDO is a unique medical detection service that travels directly to business premises and offers all kinds of personal examinations to corporate employees.

By incorporating the latest in medical space-age technology, MDO can deliver the kind of medical examination previously received only in large, fully-equipped clinics. GHS scientifically designed the MDO to provide maximum individual comfort, while at the same time permitting the processing of about 50 people in a seven-hour day.

A complete diagnostic X-ray unit is available in a fully-protected, lead-lined examination area to perform GI series, gall bladder series, barium swallow and barium enema. Additional services include EKG, urinary drug screening, pap smears, complete blood analysis, and proctoscopy. All tests will be conducted by a full-time professional staff assigned to the van. The Mobilhealth firm expects the van to be in service by the latter part of May 1973.

It's all yours. Charles Kirbow (R), director of Grumman Health Systems, presents keys to first Mobilhealth Detection Office van to officials of Mobilhealth Detection Office, Inc. At the ceremony are (L to R) Allan Mandel, treasurer; Thomas O'Connor, vice president; Clark Kaskie, president; and Dr. Rudolph Bono, board chairman. (Photo by Fred Annette)

Soviet space engineers train at Bethpage

Three Soviet space engineers arrived at Bethpage on April 30 for a two-week training course on the flight and ground support equipment Grumman will provide for the Apollo Soyuz Test Project (ASTP). ASTP is scheduled to begin in July 1975 and will be the first manned international space mission. Two spacecraft will be launched, one from the United States and the other from the Soviet Union. The United States Command Module and Soviet Soyuz vehicle will then rendezvous and dock in earth orbit.

While docked, American astronauts and Soviet cosmonauts will transfer to each other's vehicles for visits and upon completion of joint activities, transfer back to their original spacecraft for the return to earth.

During their stay at Grumman, the Soviet engineers are being trained on the use of VHF/AM communications equipment which will be installed in the Soyuz spacecraft for the Apollo/Soyuz mission. This equipment was originally designed for use in the Grumman-built Apollo Lunar Module. They will also receive instruction on the test consoles needed to check the equipment prior to launch.

The Apollo Soyuz Test Project is under the direction of the National Aeronautics and Space Administration's Johnson Space Center, Houston, Texas.

GRUMMAN AEROSPACE CORPORATION
BETHPAGE, NEW YORK 11714

BULK RATE
THIRD CLASS
PERMIT NO. 264
U.S. POSTAGE PAID
BETHPAGE, NEW YORK

Letters

To the editor:

I would like to commend you on the article in your April 13, 1973 issue of Plane News entitled "Helping the Hidden Alcoholic." The article itself was very informative. The fact that the subject can be approached is great. The manner in which the material was presented was something I appreciated.

I know that somewhere, someone reading that article will benefit from it.

Bill Dowdy

On our list?

A couple of months ago, we said we were going to try something different to get Plane News to our "outside" readers quicker. From all reports, it's working. The paper is being mailed from Bethpage the morning it is published and arriving at its destination anywhere from one-to-two weeks earlier than it had previously.

And remember we said that we were conducting a survey to find out who wanted to remain on the mailing list? Well, that too is now completed, so if you don't receive your issue of Plane News, it is because you neglected to return the post card to our office at Plant 5.

CALENDAR of events

Notice of events for the period May 23-June 7 should reach Plane News by **Wednesday, May 16.**

Amateur Radio Club: Wed., May 16, 5 p.m., WA2LQO radio shack, Plt. 5 roof, local, business and speaker, open to outsiders. E. Goodman, Ext. 87125.

Coin Club: Every Wed., 12:05, vendor conf. rooms, Plt. 25, informal lunch time meeting. Ken Hale, Ext. 1936.

Duplicate Bridge Club: Every Thurs., 6 p.m., Plt. 30 cafe., CWB franchised with ACBL, duplicate bridge game, open to outsiders. D. Panshoukian, Ext. 2798, 87280.

Family Campers: May 18, 19, 20, South Haven Park, Suffolk, camp out. H. Heinlein, Ext. 9518.

Fencing Club: Mondays, 4:30-6:00 p.m., Plt. 30 cafe, instruction and competition. George Kegney, Ext. 7541.

Flying Club: May 11, Fri., Plt. 28, FAA Film, guests welcome. Betty Schledorn, Ext. 86827.

Instrument Society of America: Wed., May 16, 6:00 p.m., Holiday Manor, local, International Travel, TWA pilot, open to outsiders, R. Romaneck, Ext. 2275.

Stamp Club: (Bethpage) First 3 Wed. of month, 5:00 p.m., Plt. 30 cafeteria, auction, circuit book sales, swap, discussion, new members & guests. E. Manaker, Ext. 2324.

Dual honors. John North of Plant 52 Manufacturing in Houston, who in his spare time is a captain in the Seabrook, Texas, Volunteer Fire Dept., was recognized recently as Fireman of the Year, and also for saving a person's life in the line of duty.